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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,270	02/17/2004	Michael S. Bender	5681-76100	2233

58467 7590 11/09/2009

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ART UNIT	PAPER NUMBER
2187	

NOTIFICATION DATE	DELIVERY MODE
11/09/2009	ELECTRONIC

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHAEL S. BENDER and ALOYSIUS C. ASHLEY WIJEYERATNAM

Appeal 2009-002618
Application 10/780,270[1]
Technology Center 2100

Decided: November 5, 2009

Before HOWARD B. BLANKENSHIP, JEAN R. HOMERE, and JAY P. LUCAS, *Administrative Patent Judges*.

HOMERE, *Administrative Patent Judge*.

DECISION ON APPEAL

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[1] Filed on February 17, 2004. The real party in interest is Sun Microsystems, Inc. (App. Br. 2).

I. STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) (2002) from the Examiner's final rejection of claims 1 through 21. We have jurisdiction under 35 U.S.C. § 6(b) (2008).

We affirm.

Appellants' Invention

Appellants invented a method, system, apparatus, and computer-accessible storage medium for employing stateless clients in a client/server environment. (Spec. 1, Para. [0001].) Appellants' Specification discloses that a stateless client lacks the necessary resources for locally executing applications or operating system software and storing application data. (Spec. 6-7, Para. [0020].) Appellants' Figure 1 depicts a system (5) that includes a plurality of stateless clients (10a and 10b) configured to communicate with a plurality of server systems (20a and 20b). (Spec. 6, Para. [0019].) Additionally, each of the stateless clients (10a and 10b) is locally coupled to a respective storage device (25a and 25b). (*Id.*) In particular, application execution and data storage takes place on server systems (20a and 20b) and storage devices (25a and 25b), respectively, whereas the hardware associated with the stateless clients (10a and 10b) is configured to convey data and commands to and from server systems (20a and 20b) and/or storage devices (25a and 25b) on behalf of one or more users. (Spec. 6, Para. [0020].) According to Appellants, since typical stateless clients do not include support for local storage devices, there is a need to provide stateless clients with the capability of locally interfacing to storage devices. (Spec. 2, Para. [0006].)

Illustrative Claim

Independent claim 1 further illustrates the invention as follows:

1. A system, comprising:

a server configured to execute an application;

a stateless client configured to communicate with said server, and further configured such that during use, a user interacts with said application via said stateless client; and

a mass storage device locally coupled to said stateless client, wherein said mass storage device is accessible by said user via said server;

wherein said server is further configured to store data to said mass storage device via said stateless client in response to said user's interaction with said application.

Prior Art Relied Upon

The Examiner relies on the following prior art as evidence of unpatentability:

Hochmuth	2003/0056063 A1	Mar. 20, 2003
Pooni	2004/0064461 A1	Apr. 1, 2004 (filed Oct. 1, 2002)
King	2005/0102377 A1	May 12, 2005 (filed Nov. 10, 2003)
Billington	7,103,760 B1	Sep. 5, 2006 (filed Jul. 16, 2001)

Rejections on Appeal

The Examiner rejects the claims on appeal as follows:

Claims 1 through 5, 8 through 12, and 15 through 19 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Billington.

Claims 6, 13, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Billington and Pooni.

Claims 7, 14, and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Billington and Hochmuth.

Appellants' Contentions

Appellants contend that Billington fails to explicitly disclose how a mass storage device coupled to a thin client device is accessed by the user of the thin client device relative to the processor. (App. Br. 10-11; Reply Br. 2-3.) Therefore, Appellants contend that Billington's cited disclosure does not teach that the mass storage device is accessible by the user via the server, as recited in independent claim 1. (*Id.*) Further, Appellants contend that Billington fails to explicitly disclose how data is stored to the mass storage device and, therefore, does not teach that the server is further configured to store data to the mass storage device via the stateless client in response to the user's interaction with the application, as recited in independent claim 1. (App. Br. 11-12; Reply Br. 3-4.) Additionally, Appellants argue that Billington does not inherently disclose the claimed features as set forth above. (App. Br. 12-14; Reply Br. 4-5.)

Examiner's Findings and Conclusions

The Examiner finds that Billington's disclosure of storing specific device drivers in a mass storage device, whereby a processor accesses a device driver in the mass storage device to run a respective program, teaches that the mass storage device is accessible by the user via the server, as recited in independent claim 1. (Ans. 9-10.) Further, the Examiner finds that Billington's disclosure of accessing a device driver in the mass storage device to run a respective program requires user interaction and, therefore,

teaches that the server is further configured to store data to the mass storage device via the stateless client in response to the user's interaction with the application, as recited in independent claim 1. (*Id.* at 10-11.) Additionally, the Examiner finds that Billington's disclosure of numerous thin client devices sharing one powerful Personal Computer ("PC") and associated drivers expressly or inherently teaches all the limitations recited in independent claim 1. (*Id.* at 11-12.)

II. ISSUE

Have Appellants shown that the Examiner erred in finding that Billington anticipates independent claim 1? In particular, the issue turns on whether:

(a) Billington teaches a mass storage device accessible by a user via the server, as recited in independent claim 1.

(b) Billington teaches a server configured to store data to a mass storage device via a stateless client in response to the user's interaction with an application, as recited in independent claim 1.

III. FINDINGS OF FACT

The following Findings of Fact ("FF") are shown by a preponderance of the evidence.

Billington

1. Billington discloses a system that "enables numerous thin clients to share the resources of one powerful PC, which acts as a server, or comprises a purpose built server, and share the use of drivers, one or more printers, scanners, etc." (Col. 14, ll. 12-16.) Billington's Figure 11 depicts a

system (10) that implements a hard-wired or wireless network where the peripheral (12) can comprise a thin client device connectable to user interface devices (e.g., a monitor (74), keyboard (76), mouse (78)) to a data storage drive (80) (e.g., a floppy, zip drive, CD-RW, etc.). (Col. 13, ll. 19-25.)

> Power and data connections to a wireless communication device (82) or (84) enable connection to a processor (14) comprising a PC or server likewise equipped with a wireless communication device, or directly to the Internet or another network (21). The processor is connected to other thin clients via wireless or wired connections, and can be connected to a further network (21).

(Col. 13, ll. 25-31.)

2. Billington discloses that a number of devices can be conveniently connected to the processor at the desktop location of the peripheral, rather than at the processor such as a PC. (Col. 11, ll. 25-28.) "The connection … to a printer or mass storage can be via the processor or peer-to-peer, depending on the particulars of the devices connected." (Col. 11, l. 36-39.)

3. Billington's Figure 6 depicts system (10) and peripheral device (12) that includes a case (32) incorporating or carrying a cradle (40). (Col. 11, ll. 60-62.) Billington discloses that "the cradle can be made to accommodate more than one kind of device (36) in the cradle, by a provision of an appropriate adapter (42)." (Col. 11, ll. 62-64.) "For example, it may be desireable to have a PDA synching cradle, a mobile phone or other wireless connection device cradle, which can provide a wireless connection to a network, a digital image capture device cradle for video or still cameras, or a flash memory module cradle … ". (Col. 12, ll. 10-15.)

Pooni

4. Pooni generally relates to utilizing a method and arrangement to dynamically detect one or more small computer system interface ("SCSI") devices on a Linux host. (Abstract.) Pooni discloses that

> a kernel component is inserted into a SCSI subsystem in order to determine all valid h, b, t, l addresses of the devices that are connected to the system. A user mode daemon initiates a rescan algorithm from user space for an actual number [of] hosts installed on the system, max buses and targets supported by the system, and for lun(0), lun(0) being the target device of the lun. If a target device is present at that (h, b, t, l(0)), a SCSI inquiry command is sent to the target device (lun(0)) by a mid-level SCSI layer of the SCSI Subsystem.

(Pg. 4, Para. [0039].)

Hochmuth

5. Hochmuth generally relates "to a system and method for providing secure access to network logical storage partitions." (Pg. 1, Para. [0002]. Hochmuth discloses that "[o]ne example of a logical storage partition is a logical unit number (LUN) in a storage disk array, where a LUN number corresponds to a partition of a logical storage partition. A LUN may include one or more physical partitions or one or more subsets of a physical partition." (Pg. 2, Para. [0014].) Further, Hochmuth's Figure 1 depicts a configuration server (54) that includes logic (59). (Pg. 4, Para. [0030].) The "logic (59) may provide a simple, common, and easy-to-use interface that may be used to create cells that include particular LUNs and secure file servers ("SFSs"), and manage storage assignment and/or security." (*Id.*)

IV. PRINCIPLES OF LAW

Anticipation

In rejecting claims under 35 U.S.C. § 102, "[a] single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation." *Perricone v. Medicis Pharmaceutical Corp.*, 432 F.3d 1368, 1375 (Fed. Cir. 2005) (citing *Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565 (Fed. Cir. 1992)).

> Anticipation of a patent claim requires a finding that the claim at issue 'reads on' a prior art reference. In other words, if granting patent protection on the disputed claim would allow the patentee to exclude the public from practicing the prior art, then that claim is anticipated, regardless of whether it also covers subject matter not in the prior art.

Atlas Powder Co. v. IRECO, Inc., 190 F.3d 1342, 1346 (Fed Cir. 1999) (internal citations omitted).

Obviousness

"On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness." *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998).

> Section 103 forbids issuance of a patent when "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains."

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007).

In *KSR*, the Supreme Court emphasized "the need for caution in granting a patent based on the combination of elements found in the prior art," and discussed circumstances in which a patent might be determined to be obvious. *Id.* at 415 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 12 (1966)). The Court reaffirmed principles based on its precedent that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* at 416. The operative question in this "functional approach" is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.* at 417.

In identifying a reason that would have prompted a person of ordinary skill in the relevant field to combine the prior art teachings, the Examiner must show "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Id.* at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

V. ANALYSIS

Claim 1

Independent claim 1 recites, in relevant parts:

> 1) said mass storage device is accessible by said user via said server; and
> 2) said server is further configured to store data to said mass storage device via said stateless client in response to said user's interaction with said application.

Billington discloses a thin client device coupled to a data storage device connected to a remote processor via wireless communication. (FF 1.) Further, Billington discloses that the thin client device connects to the data

storage device or mass storage device either via the processor or peer-to-peer. (FF 2.) We find that Billington's disclosure teaches that the thin client device may access the mass storage device via the processor. In particular, we find that Billington's disclosure of a user associated with the thin client device accessing the mass storage device via the processor teaches the "mass storage device is accessible by said user via said server," as recited in independent claim 1.

Further, Billington discloses that numerous thin client devices share the resources of the processor, the use of drivers, one or more printers, scanners, etc. (FF 1.) We find that the thin client devices share one common processor and its associated driver software. In particular, we agree with the Examiner that Billington's disclosure of a user associated with the thin client device accessing the mass storage device via the processor, in conjunction with the thin client devices sharing one common processor and its associated driver software, teaches that the thin client device possesses sufficient functionality to interact with the mass storage device to store data in response to interacting with the one common processor and its associated driver software. Therefore, we find that Billington's cited disclosure teaches the "server is further configured to store data to said mass storage device via said stateless client in response to said user's interaction with said application," as recited in independent claim 1. It follows that Appellants have failed to show that the Examiner erred in finding that Billington anticipates independent claim 1.

Claims 2 through 4, 8 through 11, and 15 through 18

Appellants do not provide separate arguments with respect to claims 2 through 4, 8 through 11, and 15 through 18. Therefore, we select

independent claim 1 as being representative of the cited claims. Consequently, Appellants have not shown error in the Examiner's rejection of claims 2 through 4, 8 through 11, and 15 through 18 for the reasons set forth in our discussion of independent claim 1. 37 C.F.R. § 41.37(c)(1)(vii).

Claim 5, 12, and 19

Appellants contend that Billington's disclosure of a thin client device or other peripheral device coupled to a processor does not teach coupling a solid-state mass storage device to a stateless client. (App. Br. 15; Reply Br. 5-6.) We do not agree.

Billington discloses that the peripheral device or thin client device includes a case incorporating a cradle. (FF 3.) Further, Billington discloses that the cradle can accommodate more than one kind of device, including a flash memory module cradle. (*Id.*) Additionally, as set forth above, we find that Billington's disclosure teaches that the thin client device is coupled to a mass storage device. We find that Billington's disclosure teaches that the thin client device incorporates a cradle that locally couples to a mass storage device, such as flash memory module. In particular, we find that Billington's disclosure of a flash memory module teaches "a solid-state mass storage device," as recited in dependent claim 5. It follows that Appellants have failed to show that the Examiner erred in finding that Billington anticipates dependent claim 5.

Appellants do not provide separate arguments with respect to dependent claims 12 and 19. Therefore, we select dependent claim 5 as representative of the cited claims. Consequently, Appellants have not shown error in the Examiner's rejection of dependent claims 12 and 19 for the

reasons set forth in our discussion of dependent claim 5. 37 C.F.R. § 41.37(c)(1)(vii).

Claims 6, 13, and 20

Appellants contend that there is insufficient rationale for the proffered combination. (App. Br. 15-16; Reply Br. 6.) We do not agree.

As set forth above, Billington's disclosure teaches that a thin client device may access a mass storage device via a processor. As detailed in the Findings of Fact section above, Pooni discloses utilizing a kernel component inserted into a SCSI subsystem and a user mode daemon to dynamically detect one or more SCSI devices on a Linux host. (FF 4.) We find that the kernel component and user mode daemon can be used to modify a SCSI device. In particular, we find that an ordinarily skilled artisan would readily appreciate that when the kernel component and user mode daemon are inserted into a general purpose processor or server, they will perform their ordinary functions. Thus, we find that Billington and Pooni disclose prior art elements that perform their ordinary functions to predictably result in a method, system, and computer-accessible storage medium for employing stateless clients that access a server configured to provide a kernel execution mode and a user execution mode, whereby a storage service daemon executes in the user execution mode. *See KSR*, 550 U.S. at 418-19. Appellants' argument that the Examiner has not provided sufficient rationale to warrant the proffered combination is unavailing. It follows that Appellants have failed to show that the Examiner erred in concluding that the combination of Billington and Pooni renders dependent claim 6 unpatentable.

Appellants do not provide separate arguments with respect to dependent claims 13 and 20. Therefore, we select dependent claim 6 as representative of the cited claims. Consequently, Appellants have not shown error in the Examiner's rejection of dependent claims 13 and 20 for the reasons set forth in our discussion of dependent claim 6. 37 C.F.R. § 41.37(c)(1)(vii).

Claims 7, 14, and 21

Appellants contend that Hochmuth's disclosure of a unit interface that is implemented by a configuration server does not teach a unit interface of a mass storage device. (App. Br. 17; Reply Br. 6-7.) In particular, Appellants argue that Hochmuth discloses that the logic elements of the configuration server are distinct from the mass storage device whereas the claim requires the mass storage device to include one or more unit interfaces. (Reply Br. 6-7.) We do not agree.

Hochmuth discloses a configuration server that includes logic which provides an interface used to create cells that include LUNs. (FF 5.) Further, Hochmuth discloses that a LUN includes one or more physical partitions or one or more subsets of a physical partition. (*Id.*) We find that Hochmuth's disclosure teaches a configuration server that incorporates logic which contains an interface for LUNs comprising one or more partitions. Additionally, as set forth above, we find that Billington's disclosure teaches that the thin client device is coupled to a mass storage device. In particular, we find that an ordinarily skilled artisan would recognize that Hochmuth's disclosure of logic that contains interfaces for LUNs comprising one or more partitions may be incorporated into Billington's mass storage device. Thus, we find that the cited disclosures of Billington and Hochmuth teach "[a]

mass storage device compris[ing] one or more unit interfaces, wherein each interface comprises one or more local units (LUNs), and wherein each [LUN] comprises one or more partitions," as recited in dependent claim 7. It follows that Appellants have failed to show that the Examiner erred in concluding that the combination of Billington and Hochmuth renders dependent claim 7 unpatentable.

Appellants do not provide separate arguments with respect to dependent claims 14 and 21. Therefore, we select dependent claim 7 as representative of the cited claims. Consequently, Appellants have not shown error in the Examiner's rejection of dependent claims 14 and 21 for the reasons set forth in our discussion of dependent claim 7. 37 C.F.R. § 41.37(c)(1)(vii).

VI. CONCLUSIONS OF LAW

1. Appellants have not shown that the Examiner erred in rejecting claims 1 through 5, 8 through 12, and 15 through 19 as being anticipated under 35 U.S.C. § 102(e).

2. Appellants have not shown that the Examiner erred in rejecting claims 6, 7, 13, 14, 20, and 21 as being unpatentable under 35 U.S.C. § 103(a).

VII. DECISION

1. We affirm the Examiner's decision to reject claims 1 through 5, 8 through 12, and 15 through 19 as being anticipated under 35 U.S.C. § 102(e).

2. We affirm the Examiner's decision to reject claims 6, 7, 13, 14, 20, and 21 as being unpatentable under 35 U.S.C. § 103(a).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

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